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RESEARCH ON THE FUTURE OF FM IN THE NORDIC COUNTRIES OF EUROPE

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INTRODUCTION

This paper presents the main results of a foresight study of Facilities Management (FM) in the Nordic countries of Europe – Denmark, Norway, Sweden and Finland. The purpose of the project was to identify trends and challenges in relation to the FM profession in the Nordic countries and to provide input to a common Nordic research agenda. The project was undertaken by Centre for Facilities Management – Realdania Research (CFM) at the Technical University of Denmark (DTU).

The project was designed by use of methods from the tradition of strategic foresight. This approach was chosen to ensure that the strategy reflects future needs and expectations among Nordic researchers and practitioners within the FM field. The foresight process included four elements: The first element was a preliminary survey of existing studies and foresight projects on the future for FM. In particular the survey included the results of EuroFM's FM Futures project (Alexander, 2009). A report was produced about the FM sector and its status in the Nordic countries (Jensen and Dannemand Andersen, 2010). The second element was four national workshops in Denmark, Norway, Sweden and Finland, respectively, held between October 2010 and May 2011. The workshops were arranged through national organisations that are members of NordicFM, and the participants were invited by these national partners. The aim of the workshops was to identify, evaluate and prioritize future trends, challenges and needs for new competences and knowledge in the FM sector. As a third element the preliminary results of the foresight project were presented and discussed at a Nordic workshop as part of a Nordic FM conference arranged by CFM at DTU in August 2011. The fourth element was a Nordic Delphi-like questionnaire with the aim of identifying and ranking the important trends and issues resulting from the three first elements of the process.

The project is documented in a final research report (Rasmussen et al., 2012), and the main results are included in a recent book (Jensen and Nielsen, 2012).

FORESIGHT

Foresight is a structured process that empowers the actors (firms, organizations or public authorities) to design and enact their future rather than become the passive victims of an imposed future. Foresight as a strategic tool does not aim to predict the future or to unveil it as if it were prefabricated – but rather to support organizations and individuals to be strategic and proactive about the future pathways of products and processes. Foresight works systematically with a long-term perspective and tries to position the different expected developments on a time scale; in practice, the time perspective is often ten, twenty or thirty years, in some cases more. Foresight is defined by the European Commission (2002) as “.. *the application of systematic, participatory, future-intelligence gathering and medium-to-long-term vision-building processes to informing present-day decisions and mobilizing joint actions. Foresight brings together key agents of change and various sources of knowledge in order to develop strategic visions and anticipatory intelligence*”.

During the recent decades the concept of foresight has become an important tool in European science and innovation policy (Georghiou et al., 2008). In that context foresight has to a large extent diverged from forecasting and predictions increasingly to focus on managing uncertainties and ambiguities (Cariola and Rolfo, 2004). Foresight is a holistic approach that at the same time considers the interaction between not only technological, but also social, economic, political and cultural variables. It is generally acknowledged that the theoretical rationale for foresight exercises is supported by the perspective (or school) of evolutionary economics, which comprises the innovations systems approach (Georghiou and Keenan,

2006). Consequently, the further analyses draw on this framework in the analysis of the FM sector as briefly described in the following paragraph.

INNOVATION SYSTEM FRAMEWORK FOR THE FM SECTOR

Several frameworks have been suggested to assist or guide different analytical needs for innovation systems. Generally speaking, the innovation systems approach is a framework embracing a set of powerful concepts such as: Relationship, boundary, input, output, environment, feedback, communication, control and identity. An innovation system can be defined as the *'elements and relationships which interact in the production, diffusion and use of new and economically useful knowledge'* (Lundvall, 1992).

For our purpose with focus on FM foresight, a simple sectoral innovation system framework of the FM sector and its strategic environment is regarded to be a useful tool to guide the analyses and processes, see Figure i. In this understanding the FM professional sector consists of a number of providers that supply FM services to their customers or clients. Public FM research and FM educations and courses provide new (research based) knowledge and professionals (graduates) to the sector. The professional sector and the affiliated research and education institutions exist within a national (e.g. Danish) and international strategic environment. The foresight on FM is structured by three overall dimensions reflecting significant conditions and matters for development within the FM sectoral innovation system. In three different ways the three dimensions provide an indication and understanding of the flow and availability of knowledge and know-how.

Dimension 1: Megatrends in the strategic environment of FM

This dimension deals with megatrends in the strategic environment that are going to affect the FM sectoral innovation system over the next two decades. In this context megatrends are external frame conditions that mostly are outside the influence of the actors within the FM sector. Ideally, we distinguish between the national strategic environment and the international strategic environment, but in practice this distinction is often difficult.



Figure i: Analytical framework of an FM sectoral innovation system with the three dimensions of the foresight exercise.

Dimension 2: Current trends and challenges for the FM sector in Denmark/ Norway/ Sweden/ Finland

This dimension deals with trends within the FM professional sector in each country. Some of such trends are shared by the professional sectors in each Nordic country (Denmark, Norway, Sweden, Finland), and others differ. In this context a trend is defined as an inclination or a tendency that has been observed during the recent few years and that is expected to prevail during the next few (3-5) years. These trends are mostly susceptible to influence by the actors within the FM professional sector – or results of a strategic or managerial decision taken by actors under consideration of developments in the external environment.

Dimension 3: Future need for new competences and new knowledge for the FM professionals

This dimension deals with the need for generation of new knowledge and competence building within the FM sectoral innovation system. The job profile and key qualification of FM professionals is cross-functional and of a generalist nature. The profession uses knowledge and tools from a number of other professions and disciplines. Hence, the key question dealt with was partly the sector's general needs for new knowledge and new competences and partly the curriculum for a formal education in FM. In context we understand curriculum as the set of courses and their content that should be offered to students of FM at a university level.

MEGATRENDS IN THE STRATEGIC ENVIRONMENT OF FM

This part of the workshops was supported by a list of megatrends for the external environment of the FM sector based on results from 'FM Futures workshop in Zürich 2008' as part of EuroFM's FM Futures project (Alexander, 2009). The list with 26 megatrends was structured by use of the STEP approach grouping the megatrends in four categories: Social, Technology, Economy and Political.

This part of the workshop was structured by the following two questions:

- Question 1: Which megatrends will impact the FM sector within a time horizon of 10-15 years?
- Question 2: Identify the most certain and uncertain megatrends among the selected significant megatrends.

The discussions led to an addition of a number of additional megatrends, but by and large the same gross list of megatrends was discussed in the four countries. But it is remarkable that the selection of the most significant megatrends differed between the four countries. Increased focus on sustainability was ranked highest in Denmark and Norway and as 4 in Finland. It was not among the most significant ones in Sweden, where it was ranked as 9. Demographic change with labor shortage was ranked highest in Norway and as 4 in Denmark. Infrastructure of work space and work places was ranked highest in Sweden, but was not significant in the other countries. ICT was ranked as 2 in Norway and Sweden, but was not significant in the other countries. Globalization was ranked as 2 in Denmark and as 4 in Sweden, but was not significant in the other countries.

Despite these differences two important megatrends may be determined. The first concerns the increased focus on sustainability as mentioned above. The other megatrend concerns demographic changes, but the effect of this megatrend is interpreted or experienced differently in each country. In Denmark and Norway focus is on a mix of cultures and shortage of labor on the labor market. In Finland focus is on area and urban development as both industry and dwellings are located differently. For Sweden four megatrends ranked as no. 1, 3, 5 and 6 basically concerned the same overall megatrend of new ways of working and living, and that could also be interpreted as an effect of demographic changes. Issues mentioned were changes in the required infrastructure of work places and work spaces, and a new mix of working life and private life. Also increased job rotation, project based work and other new ways of working can be viewed as a part of this megatrend.

CURRENT TRENDS AND CHALLENGES FOR THE FM SECTOR

This part of the workshops focused on future trends and challenges in both the short term and the long term. It was supported by a list of 10 current trends and challenges observed for the FM sector (Jensen and Dannemand Andersen, 2010).

This part of the workshop was structured by the following two questions:

- Question 1: *Discuss and supplement the list of current trends and challenges for the FM sector in your country. Or phrased in another way: What keeps a professional FM awake at night right now?*
- Question 2: *Identify the most significant trends and challenges in short term and long term.*

During the discussions a large number of additional trends and challenges were identified. The most significant trends and challenges for each country in both the short and the long term are shown in table 1.

Table 1: Most significant trends and challenges for the FM sector in four countries

Country	Short time perspective	Long time perspective
Denmark	Sustainability: Energy, environment, branding.	Sustainability: Energy, environment, branding
Norway	FM is not clearly defined. Spread out a common terminology.	Political development.
Sweden	Technology and new ways to work – meet needs	How to balance the demand on standardised services and at the same time deliver a tailor-made FM operation in international solutions.
Finland	Energy saving in FM (active energy management, incentives for service providers).	Housing FM.

In Denmark sustainability in terms of energy, environment and branding had highest priority in both the short and the long term. For the other countries the priorities between the short term and long term were different. In the short term the most important challenge in Norway was that FM is not clearly defined, indicating a need for further development and dissemination of a common terminology, while the political development (mostly concerned with potential outsourcing of FM tasks from public institutions) was the most important in the long term. In Sweden the highest priority in the short term was to meet needs in relation to technology and new ways of working, while in the long term it was how to balance the demand on standardized services and at the same time deliver a tailor-made FM operation in international FM solutions. In Finland the highest priority in the short term was energy savings in terms of active energy management and incentives for service providers, while in the long term housing FM had highest priority.

Across these national differences three longer term trends and challenges are shared by several countries. Again the challenge related to sustainability and energy is common for all four countries. For Denmark, Sweden and Norway issues related to standards, expectations management, and benchmarking could be considered aspects of the same trend. Finally, workshop participants from both Norway and especially Sweden are focusing on issues related to costs and added value and the pressure to provide more service for less cost.

NEW COMPETENCES AND KNOWLEDGE FOR FM PROFESSIONALS

This part of the workshops was supported by a list of FM competences suggested by EuroFM (Jensen and Dannemand Andersen, 2010) structured by use of the following six headlines: Managing services; Managing the work environment; Managing resources; Understanding business organization; Managing people, and Managing premises.

This part of the workshop was structured by the following two questions:

- Question 1: *Which needs does the FM sector have for new knowledge and new competences?*
- Question 2: *Identify the most significant needs for new knowledge and new competences.*

During the discussions a large number of other trends and challenges were added. For Denmark and Sweden the highest priority was given to quite soft areas. In Denmark this was to understand client needs, especially in development departments, and transfer the understanding to the operational level, and in Sweden it was social ability and personal competences. For Norway and Finland the highest priorities were more specific. In Norway consequences for FM of new ways of working and KPI (Key Performance Indicators) were highest with the same ranking, while urban FM, e.g. development of areas with former industrial properties, was ranked highest in Finland.

THE DELPHI SURVEY

The method to arrive at a Nordic FM Research Agenda is based on an adapted Delphi survey approach. A Delphi survey is a systematic method for eliciting and collating informed judgements on a particular issue through the circulation of a carefully designed questionnaire to participants who are mainly experts in the relevant field. In this case a number of statements were developed of the future development, favorable or just anticipated developments, of the FM sector through an iterative process. Such a Delphi statement has been defined as “.. a concise expression of the event, achievements or other phenomenon upon which views are sought. In as few words as possible, an unambiguous expression of what the questioner has in mind must be achieved, which incorporates any key conditions, but which excludes separate issues that warrant one or more additional topics” (Loveridge et al., 1995).

The statements have been developed from the results of both the literature review and the workshops. In order to secure a high response rate the number of individual statements was reduced to 40, which were clustered in the following six themes:

- Working life and style: 4 statements
- Resources and sustainability: 8 statements
- Technology: 6 statements
- FM competences: 5 statements
- Management and new services: 8 statements
- Value and professionalization of FM: 9 statements

The questionnaire was mailed to 117 experts, who had participated in the national workshops and/or in CFM's Nordic FM conference. 5 questionnaires did not reach the experts for various reasons. 51 replies were received resulting in an overall response rate of 46%, which was very satisfactory. Between 39 and 50 responders filled out all questions. About half of the responders worked in Denmark, which might give the results of the questionnaire a bias towards Danish issues. Also about half of the responders were researchers.

The main overall result of the survey was based on a combination of the statements of most importance for the development of FM and the statement for which academic research are expected to have the highest impact. This led to the proposal that a common Nordic research agenda should include the following two headlines: a) 'Value and Professionalization of FM' and b) 'Sustainability in FM Services'. Emphasis is set on the former.

Under the headline of 'Value and Professionalization of FM' research can comprise issues such as: Methodologies for FM becoming a critical strategic management tool linking the role of facilities to the organization's core business strategy, principles for measurement and documentation of the added value and return on investments of FM services, and methodologies for measurement of performance FM services against SLA's, including benchmarking, reliable KPI's and standards across areas of applications.

Research under the headline of 'Sustainability in FM Services' can comprise issues such as: Methodologies for energy saving management in FM services and sustainability as a fundamental requirement in FM services across most client groups.

CONCLUSION AND DISCUSSION

The results from the workshops show that the main issues varies considerably between the four countries, both with regards to megatrends in the strategic environments, the current trends and challenges and the future needs for new competences and knowledge. Increased focus on sustainability is the only megatrend recognized in all four countries, but globalization, labor shortage and ICT are recognized as megatrends in more than one country. Sustainability is also recognized as the main short and long term trend and challenge in Denmark, but the main trends and challenges are different in the other countries. The main needs for new competences and knowledge are also different from country to country. The most surprising results were that Housing FM is the long term trend and challenge and Urban FM is the subject of need for new competences and knowledge given highest priority in Finland. The main result of the Delphi survey is that 'Added value and Professionalization of FM' and 'Sustainability in FM Services' are the themes, where academic research in FM can have the greatest impact on FM in the future.

In a recent survey by EuroFM concerning a European research agenda the topic of Sustainability was ranked highest and the topic of Added Value was ranked third out of 10 research fields (Junghans, 2012). This shows that the themes from the Nordic FM Futures study are in line with the European research agenda, but the Nordic study included more specific statements about future research topics within these themes.

A comparison with two other recent international foresight studies - IFMA Forecasts 2011 (IFMA, 2011) and ISS Vision 2020 (ISS, 2020) - shows that the results of CFM's study in several ways are reflected in the other two FM Futures studies. Sustainability is a clear top priority both as a general megatrend and as a challenge and research need for FM. However, there are also a number of differences in the results, which can be related to differences in the purposes, methods and geographical areas.

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